

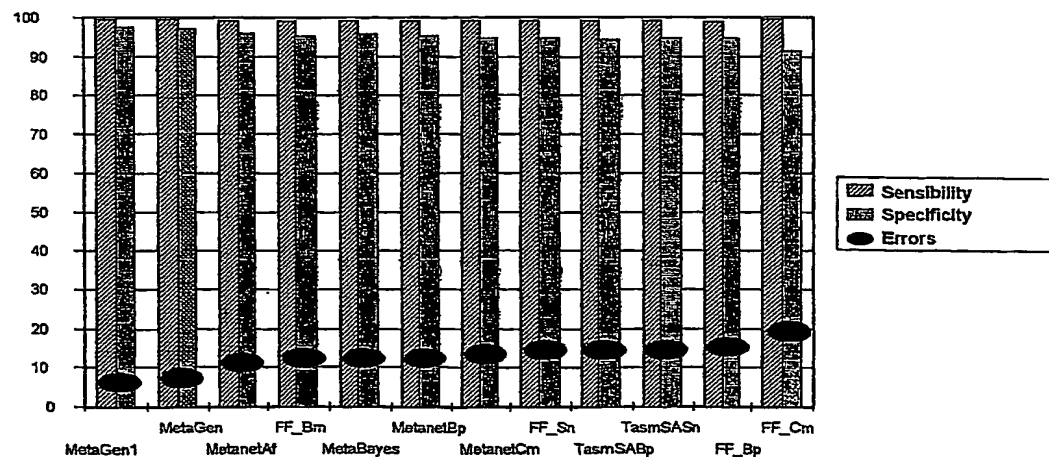
Fig. 4

## Recognition of benign/Malignant Tissues

Imaging (NMR) Breast Cancer- Prediction Results							
ANN	Malignant	Benign	Sensitivity	Specificity	Arit Av	Pond Av	Errors
MetaGen1	99.43	98.22	99.57	97.65	98.83	99.19	7
MetaGen	99.28	98.22	99.57	97.08	98.75	99.08	8
MetanetAf	99.00	97.04	99.28	95.91	98.02	98.62	12
FF_Bm	98.85	97.04	99.28	95.35	97.95	98.50	13
MetaBayes	99.00	96.45	99.14	95.88	97.72	98.50	13
MetanetBp	98.85	97.04	99.28	95.35	97.95	98.50	13
MetanetCm	98.71	97.04	99.28	94.80	97.88	98.39	14
FF_Sn	98.71	96.45	99.14	94.77	97.58	98.27	15
TasmSABp	98.57	97.04	99.28	94.25	97.80	98.27	15
TasmSASn	98.71	96.45	99.14	94.77	97.58	98.27	15
FF_Bp	98.71	95.86	98.99	94.74	97.28	98.15	16
FF_Cm	97.71	97.63	99.42	91.16	97.67	97.69	20

Fig. 5

Recognition of Benign/Malignant Tissue



# Recognition of Benign/Malignant/Normal Tissues

Imaging (NMR) Breast Cancer- Results of the Prediction												
ANN	Benign			Malignant			Normal			Global		
	Num	Err	%Cor	Num	Err	%Cor	Num	Err	%Cor	Tot	Errors	%Arit %Pond
FF_Bp	169	19	88.76	698	50	92.84	16317	181	98.89	17184	250	93.49
FF_Sn	169	13	92.31	698	36	94.84	16317	184	98.87	17184	233	95.34
FF_C	169	12	92.90	698	51	92.69	16317	90	99.45	17184	153	95.01
MetanetBaye	169	20	88.17	698	85	87.82	16317	34	99.78	17184	139	91.93
MetanetB	169	26	84.62	698	31	95.56	16317	110	99.33	17184	167	93.17
MetanetA	169	5	97.04	698	88	87.39	16317	146	99.11	17184	239	94.51
MetaGe	169	7	95.86	698	25	96.42	16317	121	99.26	17184	153	97.18
MetaGen	169	7	95.86	698	24	96.56	16317	122	99.25	17184	153	97.22
MetanetC	169	55	67.46	698	55	92.12	16317	56	99.66	17184	168	86.41

Breast Cancer Results of the Prediction (%Pond. Average)

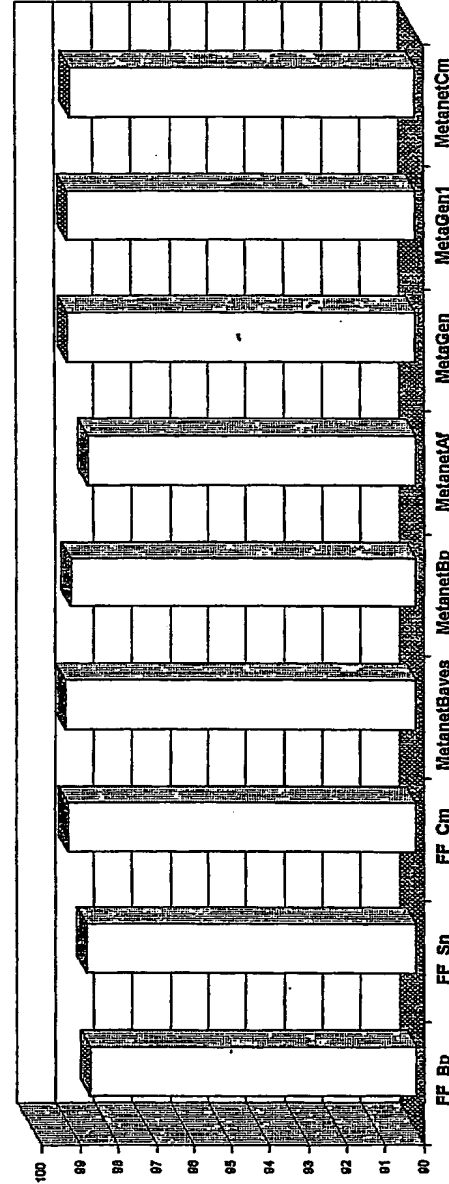


Fig. 6

# Recognition of all the five Classes of Tissues

Imaging (NMR) Breast Cancer- Results of the Prediction										
Classes	LDA	Sn	Bm	Bp	Cm	MetaBp	MetaAl	MetaCm	MetaBp	MetaBayes
Benign	82.84	94.08	93.49	93.49	90.53	96.45	95.27	92.90	92.90	92.31
Malignant	74.93	90.11	91.83	92.84	91.12	95.13	95.13	93.27	93.27	93.12
Normal	82.92	95.74	95.93	95.69	96.91	95.11	95.28	97.23	97.23	97.21
Background	95.44	99.62	99.59	99.34	99.47	99.67	99.67	99.65	99.65	99.70
Muscular	94.21	97.88	97.17	97.38	96.98	98.57	98.78	97.46	97.46	97.63
Arb. Av.	86.07	95.49	95.60	95.75	95.00	96.99	96.82	95.10	95.10	95.99
Pond. Av.	88.90	97.04	96.96	96.90	97.22	97.22	97.35	97.65	97.65	97.70
Errors	1907	509	528	532	478	477	456	404	404	396

Breast Cancer Results of the Prediction ERRORS

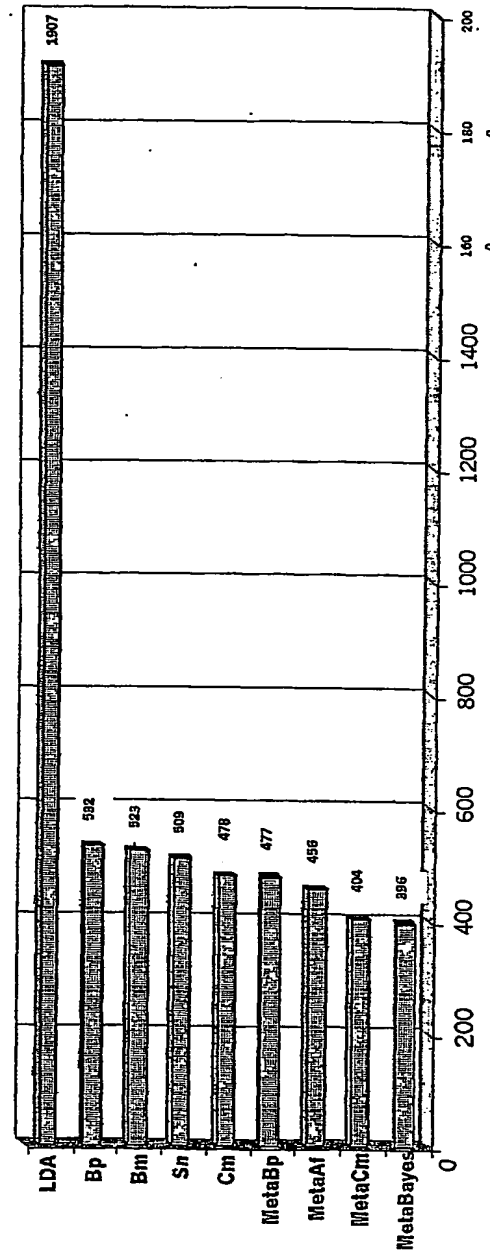
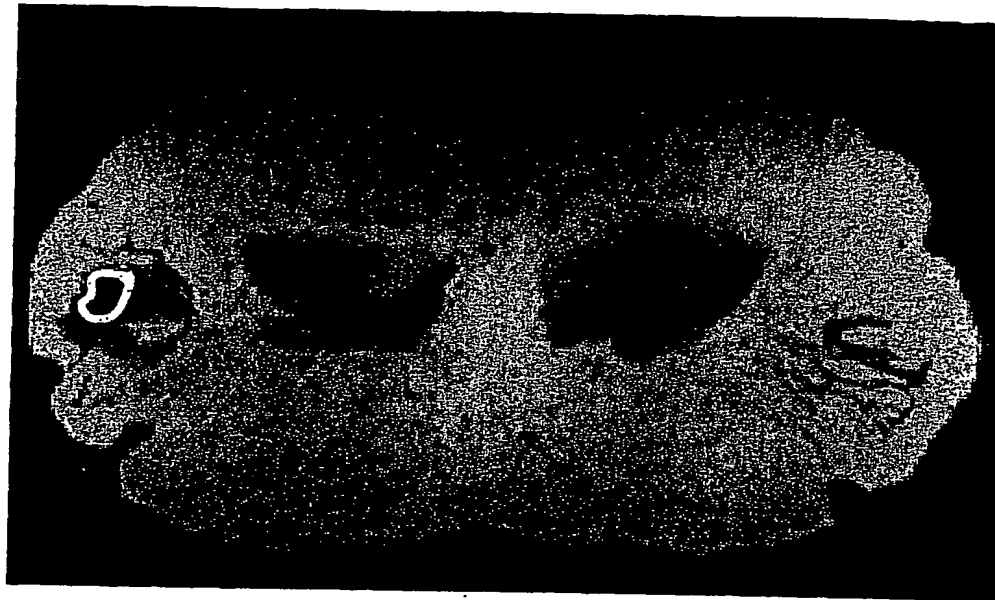
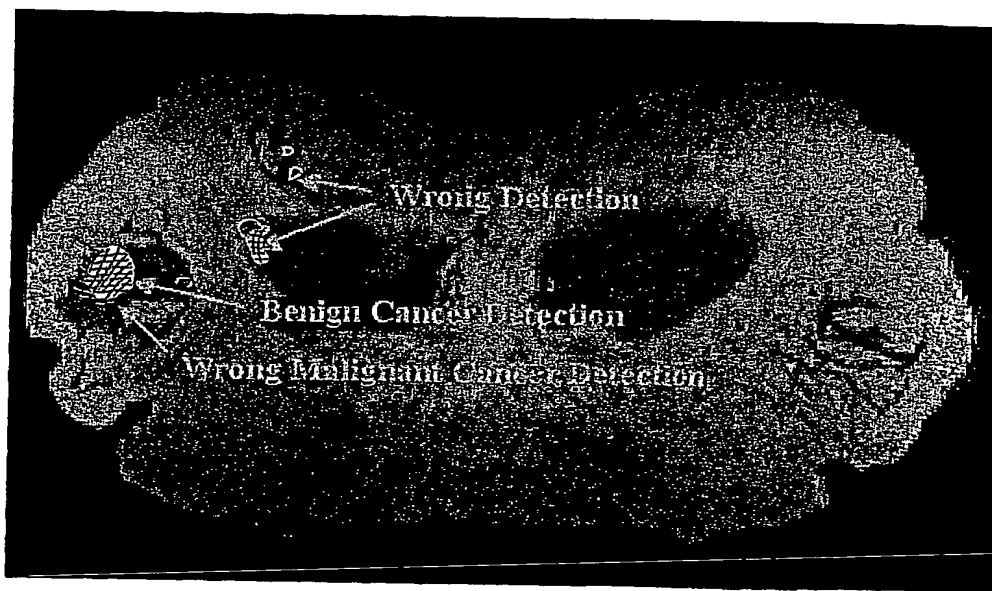


Fig. 7



**Fig.8**



**Fig. 9**



## Recognition Results for 5 Tissue Kinds

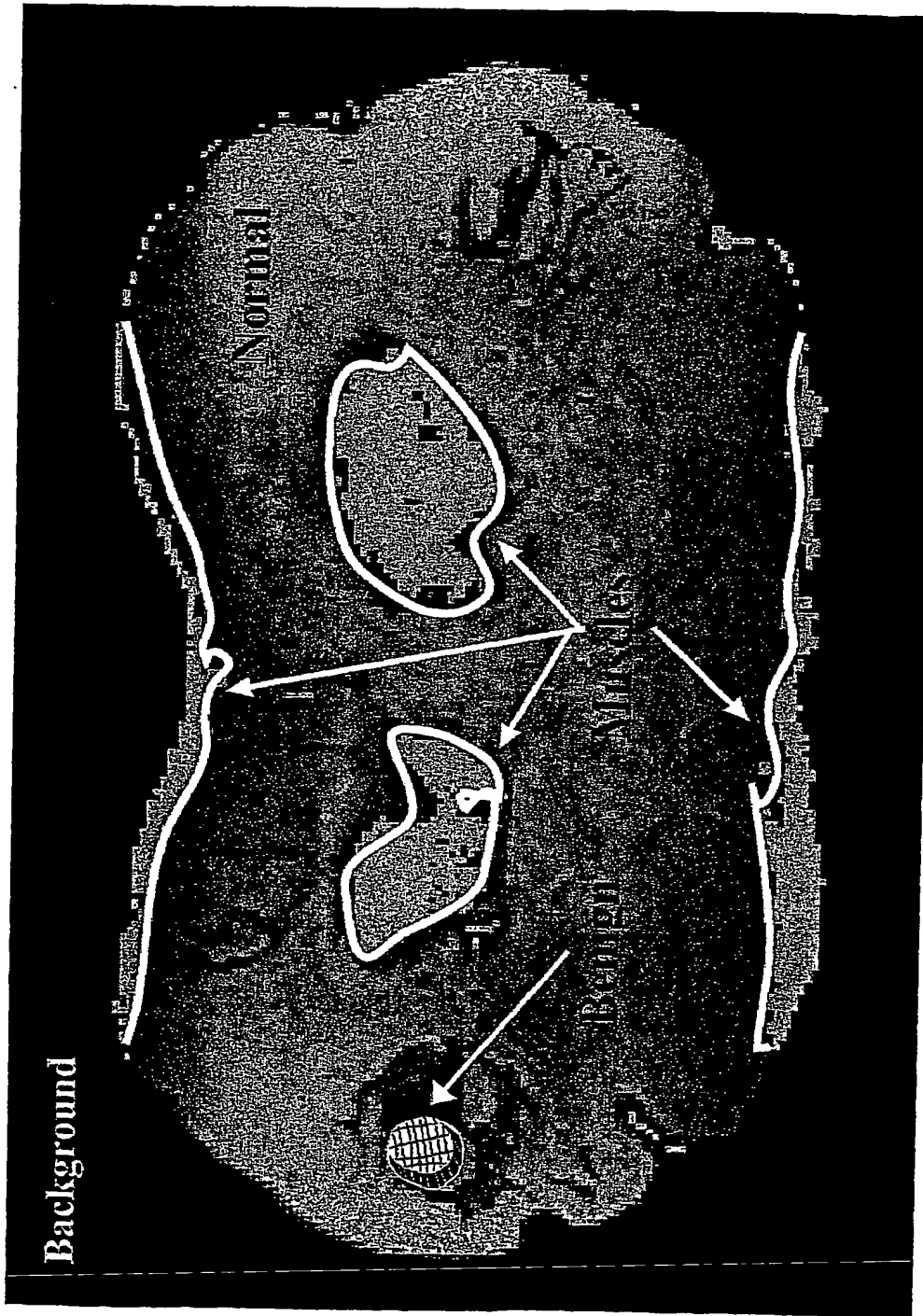
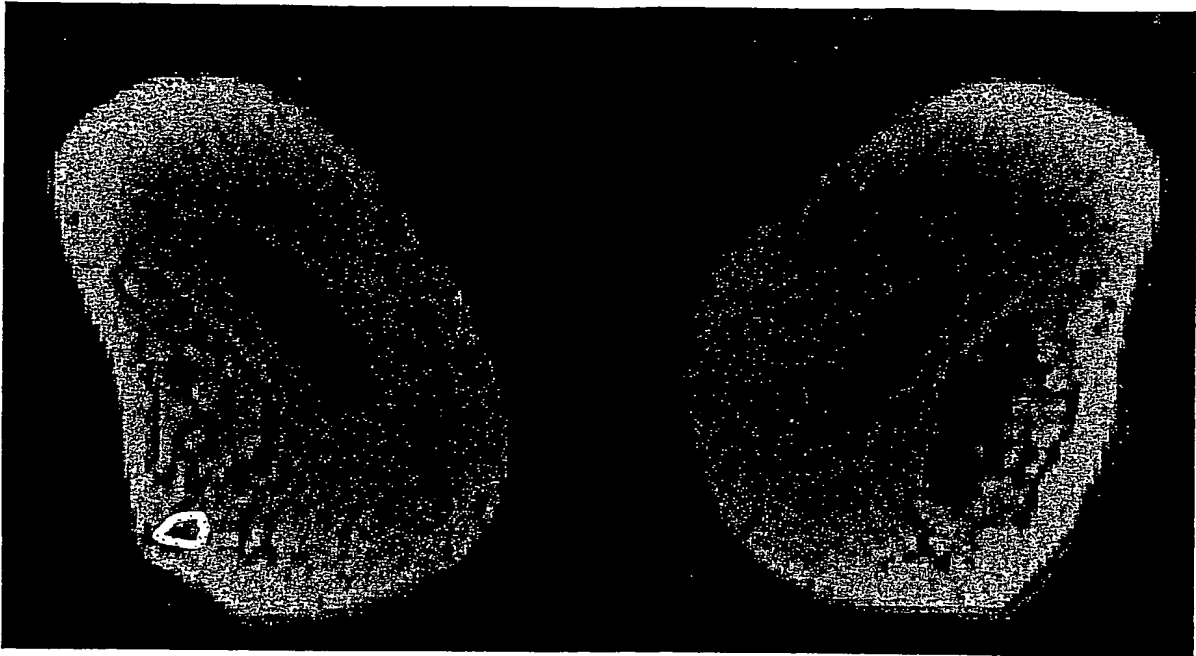
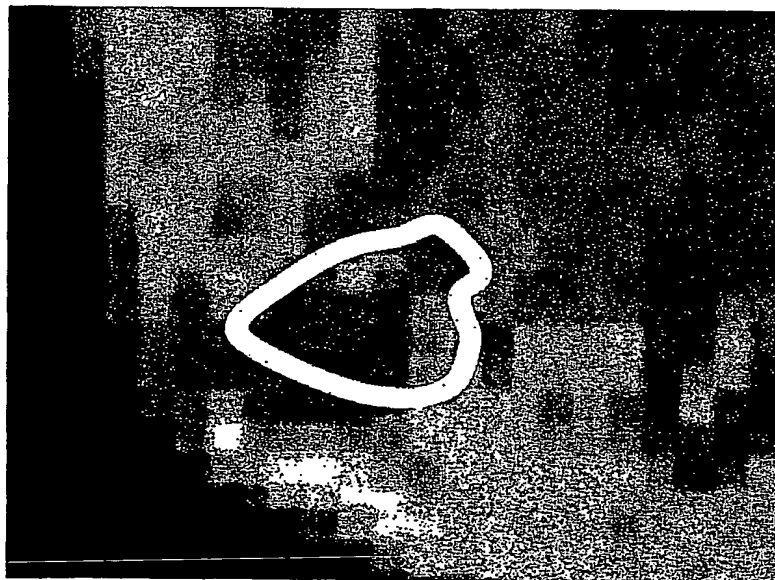


Fig. 10



**Fig. 11**



**Fig. 12**



Fig. 13

Low resolution image. The pixels with high resolution of an area of 14x14 pixels take the appearance of the corresponding unique pixel of the reconstructed image

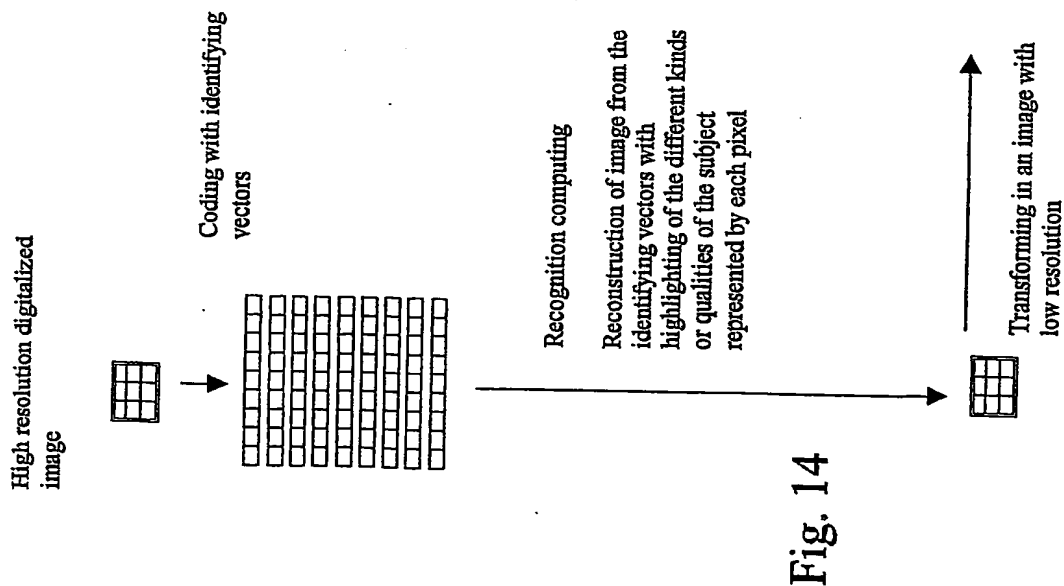
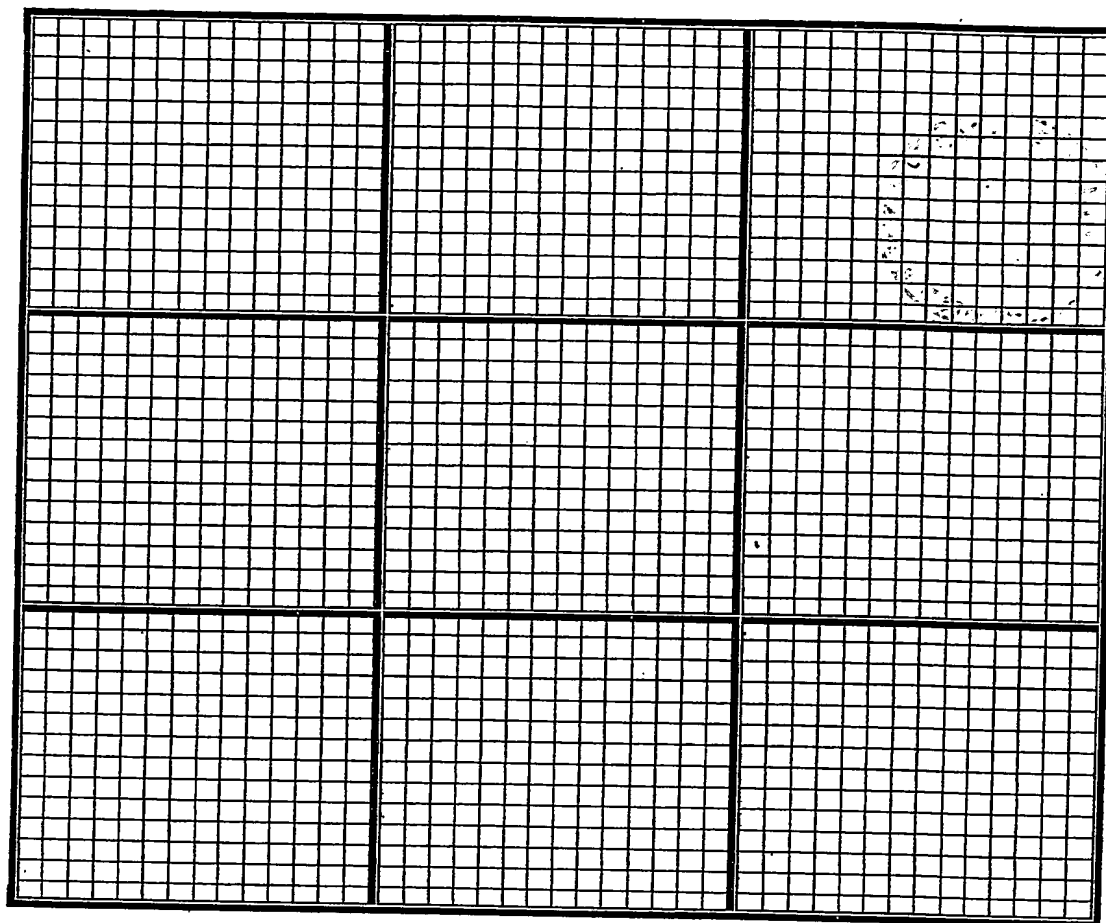


Fig. 14

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